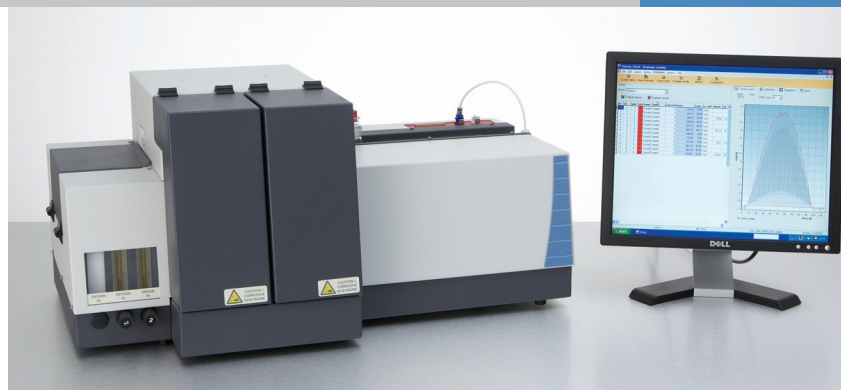


Thermo Scientific ECS 1200 & ECS 3000 Total Chlorine Analyzers

Thermo Fisher Scientific designed two state-of-the-art microcoulometric analyzers to meet the stringent compliance rules for Total Chlorine measurements in high-grade chemicals, petroleum products and LPG and gases. Thermo Scientific ECS 1200 and ECS 3000 models are robust, sensitive and meet international CEN, ISO, UOP, IP and ASTM standards.



ECS 1200

The Thermo Scientific ECS 1200 is a compact analyzer designed for laboratories performing an average number of Total Chlorine analyses. The ECS 1200 produces accurate data at ppm level due to the combination of a temperature controlled dual furnace, a turbo combustion quartz tube and a large scrubber for optimal conditioning of gas.

Advantages:

- Compact design saves bench space
- Maximum versatility with respect to liquid, solid and gas samples
- Low maintenance design
- Accurate and reliable data according to international standards

ECS 3000

The Thermo Scientific ECS 3000 is a sensitive, robust and cost effective analyzer and when equipped with one of the auto samplers it offers extremely reliable sub ppm level at a 24 hour based operation. This modular instrument saves bench space and reduces investment costs because of the fast and easy switching between the chlorine and sulfur detectors.

Advantages:

- High productivity results in low cost per analysis
- High stability, sensitivity and reliability due to a unique temperature controlled titration cell
- Maximum versatility with use of the gas, liquid and solid auto samplers.
- Low maintenance design assisted by optimal combustion and conditioning of gasses.



Technical Specifications

Dimensions (ECS 1200)	730 (W) x 365 (H) x 450 (D) mm 29 (W) x 14 (H) x 18 (D) inches
Dimensions (ECS 3000)	1017 (W) x 390 (H) x 590 (D) mm 40 (W) x 15 (H) x 23(D) inches
Furnace voltage	2 x 42 V, 50/60 Hz
Furnace power	2 x 300 W
Furnace temp. sensor	2 x Ni-Cr/Ni
Furnace temperature	1250 °C max.
Type of Analyses	Total Chlorine
Type of Detector	Microcoulometer
Software	Windows™ based ThEuS analytical software
Output	RS 232
Computer	Minimum Pentium IV processor
Compliance	ASTM D4929, D5194, D5808
Optional	NeXYZ, Liquids auto sampler ESA 2000, Solids auto sampler EGM II, Gas & LPG introduction module Total Sulfur-Microcoulometric Technique, TS-UV module (ECS 3000 only)

Facility Requirements

Voltage	115/230 V, 50/60 Hz
Power	1200 W max.
Gas connector	1/8" Swagelok
Gasses	O ₂ (99,6%) medical grade Ar or He (99,998%) technical grade
Gas pressure	1-3 Bar (14-45 psig)
Ambient temperature	15 – 35 °C

Analytical Specifications

	ECS 1200	ECS 3000
Working ranges*:		
Chlorine liquids	0.1 - 5000 mg/kg	0.05 - 5000 mg/kg
Chlorine solids	0.5 - 5000 mg/kg	0.25 - 5000 mg/kg
Sulfur MCT liquids	0.2 – 5000 mg/kg	0.1 – 5000 mg/kg
Sulfur MCT solids	1 – 5000 mg/kg	0.5 – 5000 mg/kg

Quantity of sample

	ECS 1200	ECS 3000
Liquids	1-100 µl	1 – 250 µl
Solids	0.1 – 30 mg	0.1 – 100 mg
Analysis time*	8-10 min.	6-8 min.
Inaccuracy	< 5%	< 5%
Legislation/protocols	ASTM, IP, UOP	ASTM, IP, UOP

	Total Sulfur P-UV
Sample matrix	light/heavy hydrocarbons
Working range*	0.02 - 5000 mg/kg
Inaccuracy	< 5%
Legislation/protocols	ASTM, IP, UOP

* Depends on typical applications

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PS42010_E 12/07C

Africa +43 1 333 5034 127
Australia +61 2 8844 9500
Austria +43 1 333 50340
Belgium +32 2 482 30 30
Canada +1 800 530 8447
China +86 10 5850 3588

Denmark +45 70 23 62 60
Europe-Other +43 1 333 5034 127
France +33 1 60 92 48 00
Germany +49 6103 408 1014
India +91 22 6742 9434
Italy +39 02 950 591

Japan +81 45 453 9100
Latin America +1 608 276 5659
Middle East +43 1 333 5034 127
Netherlands +31 76 587 98 88
South Africa +27 11 570 1840
Spain +34 914 845 965

Sweden/Norway/Finland
+46 8 556 468 00
Switzerland +41 61 48784 00
UK +44 1442 233555
USA +1 800 532 4752
www.thermo.com

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